

Attorney Docket No. 9286.7
Application Serial No.: 10/019,902
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REMARKS

Claims 1-6, 8-12, 14-16, 18, 20, 23, 27 and 28 are pending in this application. Claim 8 is canceled herein without prejudice. Claims 1, 10, 12, 15, 18, 23, 27 and 28 are amended herein for clarity to more particularly define the invention. Support for these amendments is found throughout the specification and in the language of the original claims, as set forth below. No new matter is added by these amendments and their entry and consideration are respectfully requested. In light of these amendments and the following remarks, applicants respectfully request reconsideration of this application and allowance of the pending claims to issue.

I. Recordation of Interview Summary in accordance with M.P.E.P. § 713.04

Applicants thank Examiner Maier for the opportunity to discuss this Office Action in a telephone interview on April 21, 2006, in which applicant's representative, Dr. Mary Miller, discussed with Examiner Maier the pending rejections, as set forth below.

II. Rejection under 35 U.S.C. § 112, second paragraph

The Office Action states that claims 1-6, 8-12, 14-16, 18, 20, 23, 27 and 28 are rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Specifically, the Office Action is concerned with the limitation of R as "a ligand suitable for specific bonding to a receptor" and the "formation of aggregates." Office Action, page 2.

Pursuant to the telephone discussion between Examiner Maier and Applicant's representative, claims 1, 10, 12, 15, 18, 23, 27, and 28 are amended herein to incorporate the language of claim 8 such that R is hydrogen, sialic acid, sialyl lactose, sialyl lactosamine, lactose, mannose, Gal α 1-3Gal, Gal α 1-3(Fuc α 1-2)Gal, GalNAc α 1-3(Fuc α 1-2)Gal, Neu5Ac α 2-6GalNAc, SiaLe^A, SiaLe^X, HSO₃Le^A, HSO₃Le^X, Gal α 1-3Gal β 1-4GlcNAc, Gal α 1-3Gal β 1-4Glc, Neu5Ac α 2-6Gal β 1-4GlcNAc, HSO₃GlcA β 1-3Gal β 1-4GlcNAc, N-acetyl-lactosamine or polylactosamine, sialic acid benzyl glycoside, HSO₃GlcA β 1-3Gal, HSO₃GlcA β 1-3Gal β 1-

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4GlcNAc β 1-3Gal β 1-4Glc, GalNAc α , GalNAc α 1-3(Fuc α 1-2)Gal β 1-4GlcNAc, Gal α 1-3(Fuc α 1-2)Gal β 1-4GlcNAc, HSO₃(Sia)Le^X, HSO₃(Sia)Le^A, Le^Y, GlcNAc β 1-6(GlcNAc β 1-3)Gal β 1-4Glc, GalNAc β 1-4(Neu5Ac α 2-3)Gal β 1-4Glc, mannose-6-phosphate, GalNAc β 1-4GlcNAc, oligo-sialic acid, N-glycolylneuraminic acid, Gal α 1-4Gal β 1-4Glc, or Gal α 1-4Gal β 1-4GlcNAc. As presented herein and as discussed with the Examiner, these R groups have a known utility and define a reasonably homogeneous (with respect to aggregation and activity) set of compounds. Thus, Applicants believe the rejection is overcome and respectfully request it withdrawal.

III. Rejection under 35 U.S.C. § 112, first paragraph

The Office Action states that claims 1-6, 8-12, 14-16, 18, 20, 23, 27 and 28 are rejected under 35 U.S.C. § 112, first paragraph, for allegedly lacking enablement. The Office Action further states that the compounds would be enabled for the ligands (R) recited in claim 8, as well as other specific ligands described in the specification. Office Action, page 4. In addition, the Office Action states that, based on the Tuzikov et al. reference (*ChemBioChem* 4:147-154 (2003)), only compounds wherein m=4 would have the requisite stability in aggregate form in order to be useful in the disclosed methods. Office Action, page 5.

As noted above and as discussed with the Examiner, claims 1, 10, 12, 15, 18, 23, 27, and 28 are amended herein to recite the ligands of claim 8. With regard to the Tuzikov reference, as also discussed with the Examiner, the sentence in Tuzikov et al. that is cited in the Office Action can only be reasonably interpreted in the context of an evaluation of predicted conformations for only those compounds described in Tuzikov et al. and is not a conclusive statement based on a comparison with any other structures. Clearly Tuzikov does not teach, and it cannot be reasonably concluded from this statement alone, that in all multivalent compounds "m" must equal 4 in order for the compounds to be stable. Thus, there is no reasonable basis for the statement that only the compounds of the present invention wherein "m=4" are stable in order to be useful in the disclosed methods. Accordingly,

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Applicants submit that this rejection has been overcome and respectfully request its withdrawal.

For at least the reasons set forth above, applicants have demonstrated that the claimed invention is adequately enabled and applicants respectfully request the withdrawal of this rejection and allowance of the pending claims to issue.

IV. Species Election.

As stated in the Restriction Requirement dated July 21, 2003, upon allowance of a generic claim, applicants will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of the allowed generic claim as provided by 37 C.F.R. 1.141. Applicants originally elected species A (mono or oligosaccharides) in the response to the Restriction Requirement dated January 21, 2004. Accordingly, should the pending generic claims be allowed, Applicants would appreciate consideration of the claims to additional species B (peptides), C (mono or oligonucleotides) and D (nucleic bases), as written in dependent form.

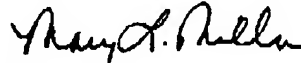
Further, Applicants were requested to make an election of an m-valent unit "X" in a Restriction Requirement dated April 28, 2004. The election of CH_{4-m} was made with the understanding that Applicants would be entitled to consideration of claims to additional species, as noted by the Examiner. Accordingly, should the pending generic claims be allowed, Applicants would appreciate consideration of the claims to the additional species of "X" of NH_{3-m} , N^+H_{4-m} , $>\text{P}-$ (when $m = 3$), $>\text{P}^+<$ (when $m = 4$), $>\text{B}-$ (when $m = 3$), a linear atom group C_2H_{6-m} , $>\text{CH}(\text{CH}_2)_z\text{CH}<$, $>\text{C}=\text{C}<$, $>\text{N}-\text{N}<$, $>\text{N}(\text{CH}_2)_z\text{N}<$ wherein $z = 2 - 6$, when $m = 4$), a carbocyclic atom group C_6H_{6-m} , $\text{C}_6\text{H}_{12-m}$, or a heterocyclic atom group C_3N_3 (when $m = 3$), C_4N_2 (when $m = 4$), as written in dependent form.

The Examiner is encouraged and invited to contact the undersigned directly at (919) 854-1400 if such contact will expedite the prosecution of this application to allowance.

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The Commissioner is authorized to charge Deposit Account No. No. 50-0220 the amount of \$120.00 for a one month extension of time. This amount is believed to be correct. However, the Commissioner is hereby authorized to charge any deficiency or credit any refund to Deposit Account No. 50-0220.

Respectfully submitted,

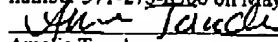


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Amelia Tauchen